

R&B

THE **FORGE**



New chancellor

Paul Drechsler CBE 'shouting about' Teesside success

Campus masterplan

£300m vision to transform Teesside University

Driving prosperity

New Business School for the Tees Valley



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WELCOME

from Professor Jane Turner

The long-awaited publication of the Industrial Strategy may not have created the headlines that many expected, but at Teesside University it served as further justification for the approach we take to enterprise and business engagement.

In particular, the call for Local Industrial Strategies and a commitment to increased funding for higher education were especially welcome.

There is no doubt that historic inequalities in regional growth can only be addressed at a local level and all universities have a vital role to play in their local economies and in the national economy.

As an anchor institution for the region we do not underestimate the role that the University has to play in supporting 'place', and helping to create a prosperous community.

The new £115m Strength in Places Fund will support areas to build on their science and innovation strengths and develop stronger local networks. There is funding for collaborative programmes proposed by universities, local employers, Local Enterprise Partnerships and their counterparts in the devolved nations. And Local Industrial Strategies will be agreed between regions and government by March 2019.

The ambition to develop local plans is the right approach and the success of the Industrial Strategy, as a whole, will largely depend on these.

In the previous edition of *R&B*, we discussed how we have published our own blueprint for boosting business and employment in the Tees Valley through our DigitalCity – Catalyst for Growth vision. However, as you will see in this edition, we have not stopped with one collaborative

programme and have progressed a number of local 'place' initiatives which are already making an impact and can contribute to the Local Industrial Strategy.

Innovate Tees Valley (see page 24) was established to help Teesside's SME community overcome barriers to growth to bring in new products and services and reach new markets at home and abroad. It combines the expertise of four business growth specialists – DigitalCity, North East of England Process Industries Cluster (NEPIC), Materials Processing Institute and Teesside University.

Our latest initiative, due to open in 2019, is the £22.3m National Horizons Centre (see page 8) – a biomedical research, education and teaching facility creating valuable new jobs and training places in a nationally important sector.

I am a member of the South Tees Development Corporation Board alongside senior local authority leaders and local business people. We have published our vision – which aims to create 20,000 skilled jobs, heavily focused on manufacturing innovation and advanced technologies within a high value, low carbon, diverse and circular economy, and contribute £1bn per annum into the UK economy – alongside a draft masterplan.

It is clear from all of these, and our plans to roll out a comprehensive programme that will prime a scale-up ecosystem in the Tees Valley, that partnership is absolutely critical.

We cannot – and will not – do this on our own.

For too long the Tees Valley has struggled in terms of regional economic rankings. However, the Industrial Strategy, Northern Powerhouse Strategy and our own devolution deal have created a golden opportunity for us to disrupt and change our trajectory and Teesside University is absolutely key to that journey.

Professor Jane Turner OBE

Pro Vice-Chancellor
(Enterprise and Business Engagement)
Teesside University



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Get in touch
 T: 01642 384068
 E: theforge@tees.ac.uk
 📍 tees.ac.uk/theforge

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AMBITIOUS £300M MASTERPLAN TO TRANSFORM CAMPUS

By Gary Martin

Work is underway on an exciting programme of investment at Teesside University that will see £300m spent on transforming the campus over the next ten years.

The ambitious Campus Masterplan provides a blueprint for how the campus will develop over the next decade. It was launched in September with an event in The Curve for key stakeholders, business contacts and University partners.

Work on Phase One has already started and includes:

- > A £10m Student Life building to bring all student-facing services together in one location. The Student Life building will also include an employability centre and teaching facilities.
- > The first phase of creating a new home for the Teesside University Business School that will see £6m spent to support continuing growth. Phase Two will see a further £15m investment. (See page 10)
- > Significant transformation of student accommodation - £83m will be invested to transform the student accommodation offer, including new purpose-built accommodation on the Woodlands site, a full refurbishment of King Edward's Square and refurbishment and modernisation of Parkside Village.
- > The £22.3m National Horizons Centre, a bioscience research education and teaching facility at the University's Darlington campus that will support the industries set to transform the UK economy. (See page 8)
- > A £13m Digital Production Centre: a focal point for the School of Computing, Media & the Arts, enhancing existing facilities with new, state-of-the-art teaching and learning space as well as office accommodation to support the growth.

Visualisations of (clockwise from top) the interior of the Student Life building; the Student Life building and Teesside University Business School; the Student Life building from Campus Heart.



Work has already been completed on the £7m refurbishment of the library, and on the renovation of the former Gazette building to create a professional services hub.

The huge programme of investment reinforces Teesside University's commitment to providing an outstanding student and learning experience and highlights its ambition to create a campus which is among the very best in the country.

The Campus Masterplan was developed following extensive consultation with students and staff and will provide the optimum facilities to meet the needs of the 21st century learner.

➤ Find out more at tees.ac.uk/campusmasterplan



NATIONAL HORIZONS CENTRE WILL DRIVE ECONOMIC GROWTH IN STEM INDUSTRIES

By David Roberts

The Minister for the Northern Powerhouse and Local Growth has said Teesside University's new £22.3m research, teaching and training facility will be a 'nationally significant asset'.

The National Horizons Centre, which is being built at Teesside University's campus at Central Park in Darlington, is due to be completed in Spring 2019.

The Centre is being established to support the bioscience sector, which includes biologics, biomedical sciences, industrial biotechnology and digital. It will play a key part in driving STEM skills and economic growth in the Tees Valley.

It has been financially supported by the Local Growth Fund, via the Tees Valley Combined Authority, and the European Regional Development Fund. The Local Growth Fund contribution of £17.5m represents the single biggest investment by the fund in the Tees Valley.

The centre will house academics and business development staff from Teesside University, working in partnership with regional, national and international industry partners to provide specialist education and training for the current and future workforce, and to promote industry-focused innovation and research.

Its imaginative design includes an exciting blend of teaching, learning and collaboration spaces, together with hi-tech laboratories and a state-of-the-art computing suite.

Together with CPI's adjacent National Biologics Manufacturing Centre and the University's Centre for Professional and

Executive Development (CPED), the centre will be at the heart of a cluster of excellence on Darlington's Central Park.

Minister for the Northern Powerhouse Jake Berry says, 'This is the Northern Powerhouse in action because this Centre will not only be of regional importance but will be a nationally significant asset too.'

'It will train our young people to become the scientists of the future and continue to drive forward the Tees Valley as a leader in research, science and innovation in the UK and the world.'

Teesside University Vice-Chancellor Professor Paul Croney adds, 'The National Horizons Centre is the result of significant work with industry and our partners, to identify how best the bioscience sector can reach its full potential through provision of the right education, training and collaborative innovation.'

'A key priority of Teesside University is to help drive the knowledge economy, by growing the high-level skills base, building partnerships with industry and the professions, and creating graduates with the knowledge, aptitude and mindset to add real value to business.'

'Our investment in The National Horizons Centre is an example of this in action. It will play a vital role, providing first-class facilities and programmes to grow knowledge and research in sectors that are set to transform the UK economy.'

Launching construction of the National Horizons Centre: (from left) Mayor of the Tees Valley Ben Houchen, Minister for the Northern Powerhouse Jake Berry and Teesside University Vice-Chancellor Professor Paul Croney.



Find out more at nhc.tees.ac.uk



Professional development centre to meet the North East's future workforce demands

By David Roberts

The Centre for Professional and Executive Development (CPED), launched recently at Teesside University's Darlington campus, aims to help meet the North-East's demand for thousands of skilled jobs.

Between now and 2024 more than half of the 133,000 new jobs projected for the Tees Valley alone are anticipated to need a Level 4 qualification, with further high-level skills demand across the rest of the region. Employment figures from the UK Commission for Employment and Skills show that the majority of new jobs in the Tees Valley are likely to be in high-skill managerial, professional and technical occupations – and this trend is reflected at regional and national levels.

Through research-informed continuing professional development, from short courses to full qualifications, CPED, based in Darlington's Central Park, is working to help meet that demand.

Provision includes a suite of new Skills Labs to cater for the continuing development needs of the health sector. The suite replicates the look and feel of hospital and physiotherapy wards, allowing NHS workers to train in a perfect simulation of a clinical environment.

The new health training facility, which will be used to upskill and train healthcare workers from across the country, was opened by Professor Lisa Bayliss-Pratt, the Director of Nursing at Health Education England.



Professor Lisa Bayliss-Pratt opening the new Skills Labs at CPED.

She says, 'Facilities like this are crucial in terms of helping all trainees to learn and develop and to try things out in different ways in order to gain confidence in what they are doing. They are absolutely vital to high quality education and training.'

The University's Pro Vice-Chancellor (Enterprise and Business Engagement) Professor Jane Turner OBE, adds, 'It is anticipated that between now and 2024, more than 17,000 of the projected jobs in the Tees Valley will be new roles, demanding fresh skills and knowledge.'

'CPED will allow companies across the North East and further afield to stay competitive and become more productive.'

'The Centre itself will become a regional and national hub of lifelong learning for the professions, offering CPD across disciplines, clearly aligned to regional needs and to the growth priorities of the Industrial Strategy.'

A NEW BUSINESS SCHOOL FOR THE TEES VALLEY

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During 2018 Teesside University Business School will be at the forefront of Teesside University's role in building skills and knowledge in our region says Professor Jane Turner OBE, Pro-Vice Chancellor for Enterprise and Business Engagement.



The government's new industrial strategy pinpoints the critical role that innovation and skills must play in securing future economic growth for our country, together with the importance of building prosperous communities and the extent to which universities are key to making that happen.

At Teesside University, we have long understood how deeply these two key drivers of prosperity can influence the fortunes of the Tees Valley and the wider region. That's why one of our core strategic goals is to provide organisations with the knowledge and tools they need to succeed as they start, grow and adapt to the change and disruption that characterise our global economy.

We are bolstering this capability even further by making Teesside University Business School a focal point for the way we work with individuals and employers. We're not only investing £22.5m to create a 21st century home for the School, but we have also brought in a fresh leadership team, new programmes and new ways of working with employers.

LEADERSHIP FOR THE FUTURE

For our new Dean, Dr Susan Laing, a central part of her work is to deliver on our mission to transform lives and economies.

This means ensuring that all learners on all courses acquire knowledge about business while developing the behaviours and skills they need to apply that knowledge and to be successful in the workplace.

Our approach is based on our core Business School philosophy: that if we are truly to make a difference, we must develop people who are enterprising in attitude, collaborative in action, global in outlook and civic in thinking.

Dr Laing's background in entrepreneurship and her knowledge of innovation in learning and assessment are already helping us reshape the courses we offer to meet the needs of today's workplace, for managers and leaders at all levels in all organisations.

A NEW MBA – BEYOND THE ACADEMIC CREDITS

Our new MBA has now been launched, both as a full-time course and in a flexible or blended mode for local, national and international leaders.

Our programme is aimed at leaders with experience in management and the workplace, who appreciate that to lead teams and stay ahead in our turbulent fast-paced global economy, they need new tools and skills. Chief among these is the ability to be an entrepreneurial leader.

To get the best ideas for our MBA, we have looked to Babson College in the United States, an institution that we consider to be among the leaders in this field, working with Babson's Professor Danna Greenberg in the creation of our innovative programme.

The MBA incorporates the Business School philosophy of enterprise, by exposing students to complex business issues in differing geographical and economic landscapes. Each cohort will undertake an international learning journey involving study alongside MBA students in a host University – we plan to partner with universities in Dubai, Singapore and Shanghai in the first instance.

Closer to home, organisations who pay the apprenticeship levy will be able to take advantage of the new MBA through the Level 7 Professional Manager Degree Apprenticeship, incorporating Chartered Manager Institute competences.

The MBA will sit alongside the Chartered Manager Degree Apprenticeship which we launched in 2017 and has seen its third wave of new entrants this year (see page 28).

CHALLENGE YOUR THINKING



The new Dean of Teesside University Business School Dr Susan Laing

LEAP 50: TEES VALLEY SCALE-UP PROGRAMME

A third major focus for the Business School will be the delivery of a new initiative to identify and support "Scale-Ups": the companies in the Tees Valley with the capability to grow.

Partnering with Tees Valley Combined Authority, we have created the LEAP 50 programme based on the insight from the 2016 Scale-Up Review on Economic Growth, which found that Tees Valley has a higher than average number of these businesses who have the potential for significant positive impact on employment and the economy.

LEAP 50 will provide the support these firms need to reach their growth potential through mentoring, support in getting access to finance and new markets, leadership programmes, skills and knowledge transfer.

NEVER JUST 'BUSINESS AS USUAL'

The direction, ambition and innovative new products of the Business School in 2018 are at the heart of a longstanding University-wide strategy to help businesses innovate and grow. This strategy means we are continually developing new approaches and partnerships to strengthen the University's economic anchor role and keep it at the forefront of driving business growth. From our ground-breaking DigitalCity programme, creating and supporting tech companies and embedding digital technologies in other sectors, to the National Horizons Centre now under construction at our Darlington campus, aimed at providing UK bioscience businesses with the skills, knowledge and innovation for growth, we're focused on helping organisations of all sizes realise their potential.

This ambitious agenda is born out of the recognition that in the people and businesses of our region we have the talent, creativity and the will for economic success. Our role at Teesside University is to be the driving force in ensuring we achieve it.

Find out more at tees.ac.uk/businessschool



By David Roberts

DigitalCity helping Tees Valley grow



The Tees Valley is continuing to establish itself as one the UK's most innovative regions thanks to the support of DigitalCity.

Stephen Robinson of Middlesbrough-based digital marketing agency, Espresso Web, says the DigitalCity Scale programme has given him the confidence to expand his company to 50 people.

Following last year's release of DigitalCity's Catalyst for Growth vision, which set out a blueprint for boosting business and employment in the Tees Valley, the tech sector is continuing to play a vital role in the local economy.

The value of the tech cluster is highlighted by the inclusion of Middlesbrough as one of the UK's leading digital clusters in two successive Tech Nation reports, in 2017 and 2018. Tech Nation is compiled by Tech City UK, the government backed organisation tasked with accelerating the growth of digital businesses.

The reports highlight the role played by both DigitalCity and Teesside University in supporting the digital and creative industries, adding £211m gross to the local economy.

DigitalCity, based at Teesside University and supported by the Tees Valley Combined Authority and European Regional Development Fund, works with digital and non-digital companies to drive innovation and growth.

It is working with the combined authority on a sector action plan which will prioritise the role that the digital sector plays in the economic future of the region.

A programme of activity to further the growth of the cluster is also ongoing at DigitalCity.

Most recently, 27 tech companies in the Tees Valley have been helped, or are in the process of being helped, to scale and grow with the support of a new initiative, and cohort two is now underway.

DigitalCity Scale is a three-month programme designed specifically for ambitious businesses in the digital and technology sectors who can demonstrate high growth and potential for scaling. Following the first two programmes, more are scheduled to run on a regular basis.

The programme consists of regular workshops in different topics including Intellectual Property (IP) Development, Strategy Formation and People and Leadership.

Every entrepreneur is also paired with a dedicated business mentor to formulate a bespoke action plan to help realise business aspirations.

DigitalCity Investment Programme Manager, David Dixon, says, 'The DigitalCity Scale programme is for tech companies who have got to a certain level but have started to plateau, or maybe those companies who have got a lot of early traction since start-up and are unsure how to act on it.

'Maybe they still have a slim management team of owner-managers who are unable to meet the demands of the day-to-day running of the business while helping it to grow.

'Our programme enables them to meet these challenges and equips them with all the tools necessary to scale their business.'

'This is a unique programme with nothing like it in the region specifically for the digital and tech sector.'



Professor Denis Martin, Professor of Rehabilitation at Teesside University

Digital experts looking to get beyond the 'audition' stage

An X-Factor style audition process will see some of Europe's top developers compete to create products using virtual reality and digital technology to aid rehabilitation.

Researchers at Teesside University are part of an ambitious international project which will look towards digital technology and virtual reality to help people with a variety of health conditions.

Funding of € 2.4m has been awarded for the VR4Rehab project, which comprises Teesside University's Centre for Rehabilitation Sciences, along with partners from universities, hospitals and industry in the Netherlands, UK, France, Germany and Belgium. It is part of Interreg, a project funded by the European Regional Development Fund, to stimulate cooperation between regions in the European Union.

A series of hackathons are taking place across Europe, bringing together developers in VR and digital technology with research and clinical experts from the various partners. The health experts are summarising issues and challenges faced when helping patients deal with various health problems, such as managing pain, controlling movement and encouraging physical and social activity.

The developers are then tasked with coming up with ideas for digital and VR solutions, which will help address these issues and concerns.

Those who come up with the best ideas will be invited back to develop prototypes and pitch their solutions to a panel of experts in a number of game jams. A winner will be chosen in each theme and they will then work with the VR4Rehab team to bring their idea to market.

Professor Denis Martin is Professor of Rehabilitation at Teesside University and also Director of the Centre for Rehabilitation Sciences. He is the lead for Teesside University for the VR4Rehab project and will be one of the experts heading-up the chronic pain theme. He will work alongside Dr Sam Harrison, Dr Cormac Ryan, Dr Shaun Wellburn and Professor John Dixon, all from the University's School of Health & Social Care, as well as Professor Zulf Ali, Director of the University's Healthcare Innovation Centre, through which the project will be operated.

Professor Martin says, 'I am delighted that Teesside University is able to be involved and provide expertise for such an exciting and innovative international project which should have a significant beneficial effect on a wide range of health issues.

'Digital technology and virtual reality can provide so many different opportunities within healthcare and rehabilitation and I'm looking forward to seeing what ideas and solutions the developers come up with.

'In terms of chronic pain, one of the problems people have is getting access to the right kind of advice and support – that is where things like interactive education and games can help people to better manage their lives while living with pain.

'This will be a tough process and we have likened it to the X-Factor - with auditions, a kind of digital boot camp, and the finalists working with expert mentors.'

Paul Drechsler CBE, the longest-serving President of the CBI, has been appointed as the new Chancellor of Teesside University. David Roberts speaks to him about how the University's partnerships with business are an example for other regions to follow.



New chancellor is 'shouting about' Teesside's success

The Teesside University open day is in full swing with hundreds of prospective students and their parents milling around the Olympia sports hall, reading prospectuses and chatting with academics and staff.

Visiting the Open Day ahead of his official inauguration as Chancellor that evening, it is obvious that Paul Drechsler is relishing the opportunity to represent the University on a national and international stage and the impact he can make.

'Energy and enthusiasm' is his immediate response when asked what qualities he can bring to the role of Chancellor.

As he chats with a group of prospective students, quizzing them amiably about their hopes and ambitions and the University's plans for the future, it is abundantly

clear that these are two qualities that he possesses in spades.

A Dubliner by birth, his appointment as Chancellor nevertheless represents something of a homecoming for Paul, who spent the first 10 years of his career at ICI on Teesside.

In the intervening years, spent working across the world with ICI and latterly with the Wates Group and Bibby Line Group, his enthusiasm for the region remains undiminished.

In particular, he believes the partnerships and links that the University has established with business means it is uniquely placed to act as an anchor institution and help drive forward the region's economic growth.

He points to the work that the University has done with initiatives such as DigitalCity to help seed a new technology sector in the Tees Valley while helping traditional industries become more efficient and innovative through the use of digital technology, as a key example of the important role that the University plays in the region's economy.

'I really think the region is a benchmark as one of the best, if not the best, regions in the country, for the way in which its businesses collaborate with the University,' he says.

'We now have an industrial strategy and if we're going to achieve the aims set out in that and increase our productivity, then we need to adapt to external changes.

'The best way of doing this is through collaboration with universities and that is exactly what is happening on Teesside.

'We should be very proud of that fact and part of my role will involve shouting about the work that Teesside is doing to my networks.'

Since being installed as Chancellor, Paul has wasted no time in doing just that. Indeed in his opening address to delegates at the CBI Annual Conference, representing some of the country's biggest employers, he highlighted the work that Teesside University was doing in driving forward a new range of STEM apprenticeships in areas critical to the local economy.

'We know what happens when we get this right: a more inclusive economy,' he told the conference. 'One that grows consistently. And one that is not only resilient to change, but that powers it in the first place.'

Back at the Open Day, he believes that the University's ambitious £300m Campus Masterplan will only build on this success.

'The University has a tremendous track record, it's already invested very smartly over the past number of years. The fact that it's now going to invest another £300m by thinking about future needs, by having more international aspirations, by raising its ambitions for research, student experience and partnering with business – they're all the ingredients of success.

'As soon as you arrive you have this sense of energy from all the students. There are so many programmes that are forward looking, in terms of thinking about what the world will need in the future, in terms of health, in terms of digital, in terms of creative skills.'

This combination of the University's track record, coupled with its ambition and growth aspirations, can only result

in continued success for Teesside, he believes. Indeed in an interview with the local press just after the announcement of his appointment was made public, the future Chancellor made no bones about his ambitions for the University, announcing that he believed it was on track to establish itself as one of the best in the world.

'Professor Paul Croney and his team are first-rate and totally committed to their mission to develop the University as a leading university in the world and I think they are on track for that,' he says. 'It is a forward-thinking place, which sees itself as part of the community rather than apart from it, and the next 20 or 30 years offer brilliant career opportunities for young people.'

A positive message indeed for those young people on the Open Day.

Main picture – Vice-Chancellor and Chief Executive Professor Paul Croney (left) with Teesside University's new Chancellor Paul Drechsler CBE.

Other pictures – Chancellor Paul Drechsler CBE exploring the Teesside University open day



BUSINESS FOCUS

Why degree apprenticeships are vital to the local economy

By Laura Woods, Director of The Forge

We're all aware of the UK's productivity challenge. According to the UKCES Working Futures report, 1.8m new jobs are predicted to be created between 2014 and 2024, with 70 per cent of those in occupations most likely to employ graduates. But will graduates have the skills to take on these jobs?

For this to happen, there is a clear need to accelerate the growth of higher-level skills, reinforce business links with higher education (HE), and keep a laser focus on creating graduates who add value in the workplace from day one. The Industrial Strategy emphasises increased research, stronger HE-business collaboration and regional growth, meaning the role of universities as economic drivers in their area has never been more important.

In the Tees Valley, the skills deficit is higher than the national average and university participation rates are correspondingly lower. Those disparities will only increase without concerted action. It's a particular challenge for an area whose future prosperity and success depend on a strong knowledge economy.

Tees Valley also boasts some real strengths, though: strong public-private partnerships; £1.47bn of private investment since 2011; as well as a highly progressive LEP and Combined Authority. We also have a metro mayor who is a vocal advocate of ambitious plans to grow our key process, advanced manufacturing, health, bioeconomy and digital sectors.

Universities and apprenticeships haven't traditionally gone hand-in-hand. But degree apprenticeships can play a critical role in driving up local skills and productivity through higher education.

A far-reaching economic strategy includes the South Tees Mayoral Development Corporation, which promotes growth through a major development site. Finally, we have a university at the heart of the Tees Valley, along with an excellent further education network. The opportunities are enormous – and that's where Higher and Degree Apprenticeships come in.

At Teesside University, these apprenticeships are proving to be an excellent way of developing high-level skills and an indigenous talent base in our region. By working with employers directly, we can create programmes that respond to their skills and work-readiness needs. That's the reason we have made a strategic commitment to apprenticeships.

We've embarked on an ambitious development programme to create new opportunities for employers and

individuals (of all ages) in our key sectors. It means we are working to accelerate and expand our provision at a pace that matches the urgency of the need.

We're doubling our apprenticeship offer in the academic year 2018-19 and adapting models and timings in line with what employers want. We know there are challenges to overcome, but equally, we're certain that degree apprenticeships are a game-changer.

Find out more at tees.ac.uk/apprenticeships



THE BUZZ IS GROWING AT FUSION HIVE

By David Roberts



From being lauded as a 'fantastic facility' by the Chancellor of the Exchequer to contributing to the success of its tenants, Fusion Hive has continued to attract praise from all quarters.

Chancellor Philip Hammond visited the business and innovation centre on Stockton's Northshore in the run-up to the 2017 general election where he met with digital businesses, including National Safety Passport.

Fusion Hive is managed by Teesside University and, as well as first class offices and facilities, offers unrivalled access to expertise and networks. The build was part-funded by the European Regional Development Fund.

Tees Valley Mayor Ben Houchen reaffirmed his support for digital businesses on a visit to the facility.

Mr Houchen met with Fusion Hive tenants including drone company RectrixAS who let the Mayor take the controls of one of its drones – normally used for sophisticated surveying for oil and gas, petrochemical and property companies.

'Digital commerce is incredibly important to the future of the Tees Valley and its global reach,' says Mr Houchen.

'Fusion Hive is home to innovative companies with world-beating products that are helping to put our area on the map, and I want to do all I can to support their growth and the creation of more like them.'

FUSION HIVE AIDS BUSINESS GROWTH

Stockton-based Datum360 builds sophisticated software to manage large-scale engineering projects and has grown its team tenfold in the last eight years.

It recently expanded its 20-strong team and moved into Fusion Hive, having begun life as a start-up in Teesside University's Launchpad.

The firm's Software as a Service products help huge oil and gas operators such as Maersk Oil, BP and ENGIE to specify, capture and use their engineering information to improve efficiency and safety across their facilities.

Steve Wilson, CEO and co-founder, says, 'Fusion Hive is the perfect base for us – it's accessible, and has the space to expand that is so integral to our business.'

'This expansion will facilitate further development of our software products to meet the needs of global companies.'

Find out more at fusionhive.co.uk



The Circle Cloud team (from left) Tomas Roberton, Eslam Khedr, Michael Povey, Daniel Cairney, Andrew Ballantyne.

Circle Cloud – led by 26-year-old Tomas Roberton and 44-year-old Michael Povey – has increased turnover from £120,000 to £440,000.

The company was launched in 2014 from Teesside University's startup incubator Launchpad, and has since gone on to work with a raft of clients, as well as securing Microsoft recognised partner status.

Tomas says 'Part of our strategy was to bring more large companies into our portfolio. Fusion Hive has enabled us to attract these clients with the modern, purpose built facilities here.'



VISUALISING DATA

Innovate UK
Technology Strategy Board

As oil and gas facilities reach the end of their life, David Roberts looks at how a unique research partnership is exploring how digital assets are being used to help manage the decommissioning process.



The Unasys KTP team (from left): Professor Nashwan Dawood, Dr Huda Dawood, Mick Flynn and Joao Patacas.
Images from the Unasys visualisation

businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills.

Nine months into the KTP, Unasys already has a tangible product in the form of the 360 degree photograph walkthroughs and 3D visualisation.

‘Obviously many of these facilities are in hard-to-reach areas,’ says Mick Flynn, Director of Unasys. ‘This means that clients involved in the decommissioning process can view them and have all the data they need at their fingertips.’

The visualisation goes beyond the FPV itself, and users can go below the surface of the sea and view the pipelines, wells and their wellheads with accompanying information about use and condition provided to the user.

‘Ultimately we’re looking at this to encompass the whole of the North Sea field,’ adds Mick. ‘It’s a big ask, but this is the sort of potential we see in the software.’

‘At the moment we have an assortment of companies doing things their own way and what we’re trying to do is pull things together and create a standard so people can see all the facilities and click on any one asset and see all the associated data.’

As part of the KTP, Joao Patacas who is completing a PhD in Civil Engineering at Teesside University, is based at Unasys to work on the project. His research is overseen by Professor Nashwan Dawood and Dr Huda Dawood from the University’s School of Science, Engineering and Design.

Moving through the 3D visualisation of an ageing floating production vessel (FPV) in the North Sea, the graphics render every surface and item on the FPV in exquisite detail and the user can scroll, zoom and explore the facility.

The visualisation, which has been developed by Middlesbrough-based Unasys in conjunction with Teesside University, is part of a Knowledge Transfer Partnership (KTP) which is looking at how Building Information Modelling (BIM) methodologies can be applied in the decommissioning process of oil and gas facilities.

The visualisation is more than a tool with which to view the facility: clicking on a particular piece of equipment, whether it be a generator, heatsink, a pump or even part of the structure itself, reveals a host of information. Data such as its status and criticality are displayed, making it incredibly useful for anybody involved in the reuse or recycling of the facilities.

Unasys also provides expert services to the oil and gas industry to help manage the complexities of project close-out and start-up. The company’s skills in this area are being augmented by expertise from Teesside University to look at how, as with the Balmoral FPV and other oil and gas facilities in the North Sea that are being decommissioned, the process can be standardised and made more efficient.

KTPs typically last for two years and are a collaboration between a university and a company. They are part-funded by Innovate UK, the Government innovation agency, to help



Traditionally, BIM creates digital assets enabled by 3D modelling of construction projects where different design and construction scenarios can be rehearsed and evaluated to achieve optimal value before construction starts.

The benefits of BIM in the construction industry are well documented, with savings of between five and seven percent on major projects which have adopted BIM methodologies. The approach also increases client confidence with increased efficiencies, better time management and improved safety records.

Professor Dawood is pioneering a Whole Lifecycle Information Flow approach to BIM whereby the digital data management does not cease with the completion of design and construction of projects. Instead BIM methodologies are implemented throughout the life of the building in areas such as facilities management and energy efficiency. Finally, as in the case of the Unasys project, they are applied during the decommissioning and dismantling of the facility.

‘Oil and gas is an ageing industry and we see our role as trying to find ways in which new technology can help us to work better at what we do,’ says Mick.

‘At the end of the day, it’s all about information management, knowing everything you can about one particular asset and having all that data in one place.’

SOME OTHER SUCCESSFUL TEESSIDE UNIVERSITY KTPS

PSI Global: This KTP was rated ‘outstanding’ following its research into how computer simulation can be used to test the flow of gases within a vacuum pump.

Pro Sport Support: This Leeds-based company is attracting clients in China with its new product, developed through the KTP, which uses motion capture technology to analyse the performance of young athletes.

Hodgson Sayers: BIM research is expected to help this building and roofing specialist in Stanley, County Durham, double its turnover.

Hazdet: By using computer games technology this Stockton company has reduced the time it takes to carry out vital assessments of gas and fire detector coverage from ten weeks down to one.

From trash to triathlons – eco-friendly sportswear company creating a green economy

Support from Teesside University is helping Grn Sportswear realise its ambition for creating a sustainable, circular economy for its eco-friendly sports clothing.

The company aims to be at the centre of a supply chain with design, manufacturing and packing processes all within a 10 mile radius. And that is coming to fruition after relocating to the University's business incubator, Teesside Launchpad.

Grn Sportswear also joined the DigitalCity Fellowship Accelerator programme, accessing funding and support to help step up the development of their 'web shop front-end' offering that allows clients the opportunity to sell through a bespoke web store.

The company was founded by Peter Lillie, a native of Middlesbrough and a Teesside University graduate, along with fellow directors Rob Webbon and Guy Whitby.

They decided to relocate to Middlesbrough from Bristol after agreeing that the Tees Valley was the best environment for the company to achieve its aims and continue to grow.

Grn makes high quality sportswear, predominantly for cycling, swimming, running and triathlon, using ethically sourced and recycled materials.

The company has exclusive use in the UK for fabric which has been made from recycled materials, including plastic bottles and fishing nets.

Since moving into Teesside Launchpad, the company has been able to take advantage of the numerous networking and co-working opportunities offered by the University and forge a number of successful partnerships.



Peter Lillie, co-founder of Grn Sportswear

The team has worked closely with the University's fashion design students to design and develop a range of swimming rash vests, made from recycled plastic bottles. They also plan to use the University's biometrics laboratories to test how their products perform under different conditions.

The company also has a Business and Sports Marketing student employed part-time and is in discussion with the University about further internship opportunities for students.

Peter says, 'There are three pillars upon which we built the business. We wanted to produce sportswear that is high-performing.

'We wanted it to be made from sustainable materials and, finally, we wanted it to be manufactured within the UK, with ideally everything sourced from within a 10 mile radius.

'Moving to Teesside Launchpad is helping us to create that sustainable, circular economy.

'We have been able to produce a range of clothing that has been designed and sublimated here, printed here and sent out from here.

'We've created an imprint for other companies and I like to think that the graduates who have worked with us will take that away with them and look at how they can apply it elsewhere.'



By David Roberts



The THYME project will build on Teesside University's expertise in bioscience.

£5m project to boost the region's bioeconomy

Teesside University is taking part in a £5million project to develop the bioeconomy across the Tees Valley, Yorkshire and the Humber region.

The THYME project will build on the existing expertise and innovation in the region in a new collaboration between the Universities of Teesside, York and Hull. Those involved in the three year project say the funding will boost the region's economy, create jobs and deliver major environmental benefits.

The bioeconomy uses renewable, biological resources such as plants and wastes to create the greener products of the future - reducing our reliance on fossil resources and minimising waste.

In partnership with regional industry, Local Enterprise Partnerships (LEPs) and the wider community, the THYME project (Teesside, Hull and York - Mobilising Bioeconomy Knowledge Exchange) has three key themes:

- **Transform: Produce high-value products from bio-based wastes and by-products**
- **Convert: Re-purpose industrial sites for bio-based manufacturing**
- **Grow: Increase productivity by reducing waste and energy use, adding value to by-products and developing better products using industrial biotechnology.**

Teesside University brings expertise in bioprocess engineering, biomimetics, sustainable technology, environmental protection, artificial intelligence (AI) and machine learning.

An industry steering group will be led by Steve Bagshaw, CEO of Fujifilm Diosynth Biotechnologies, with involvement from Croda, AB Agri & Unilever, among others.

Laura Woods, Director of The Forge, Teesside University's business hub, says, 'This project will capitalise particularly on Teesside University expertise in bioscience and digital technologies, as well as our established track record for working with industry.

'The collaboration with other universities to develop this hugely important sector provides a strong innovation platform for the National Horizons Centre (see page 8), and will deliver vital skills and knowledge to help grow the regional and national economy.'

The project is being led by the University of York and will be delivered in partnership with the Biorenewables Development Centre (BDC) and BioVale.

A recent Science and Innovation Audit (SIA) of the bioeconomy in the North of England revealed that there are over 16,000 bioeconomy related companies in the North of England, with a total annual turnover of over £91 billion, employing around 415,000 people.

The bioeconomy is estimated to be worth £220 Billion GVA in the UK alone, and the government's industrial strategy is setting ambitious targets to double its size by 2030.

The THYME project is part of a multi-million investment package to drive university commercialisation across the country through Research England's Connecting Capability Fund (CCF).

RESEARCH ROUND-UP

Work being carried out at Teesside University makes a real, practical difference to the lives of people, as well as the success of businesses and economies. Our research addresses problems that range from complex, multi and inter-disciplinary ‘Grand Challenges’ focused on some of the biggest issues of our time, through to highly focused discipline-based research within academic Schools.



IMPROVING VULNERABLE PEOPLE’S ACCESS TO JUSTICE

Research carried out by Dr Kimberly Collins examines the work of the intermediary and the impact of helping vulnerable individuals to communicate effectively in police interviews and court hearings, increasing their access to justice.

Intermediaries facilitate communication in criminal and family proceedings and provide a vital role in ensuring that vulnerable defendants are able to communicate evidence effectively. Working with Triangle, an independent organisation working with children and young people across the UK, Dr Collins’ research has informed support provided by intermediaries to vulnerable witnesses and defendants during legal proceedings.

Her work has also had wider impact on the policy and practice of those working directly with vulnerable people in the criminal justice system, including police officers, barristers, judges and social workers.

TACKLING INEFFICIENCY IN ENERGY SYSTEMS

Research led by Professor Nashwan Dawood and Dr Tracey Crosbie from the Centre for Construction Innovation and Research examines energy consumption in the built environment and the economic and environmental benefits of demand response in blocks of buildings.

Utility companies have to generate enough energy to meet large peaks in demand and energy networks must have the capacity to meet this demand. Energy systems are inefficient and expensive as, most of the time, demand runs far below capacity. Utilities have traditionally matched electricity demand and supply by controlling the rate of electricity generation.

Intelligent electricity systems in buildings can adapt to fluctuations in demand. Demand response programmes which use electrical equipment more efficiently and can store energy within blocks of buildings have the potential to keep energy bills low and integrate renewables into energy networks.

The demand response tools and techniques developed by the team will help to tackle inefficiency in energy systems caused by utility companies generating enough to meet large peaks in demand, most acute in the electricity sector, where energy cannot be easily stored.

The DR-BoB project team is investigating how blocks of buildings can use intelligent electricity systems to maximise energy efficiency.



EXAMINING GLOBAL EVIDENCE FOR THE TREATMENT OF CHILD AND ADOLESCENT OBESITY

Child and adolescent obesity presents one of our greatest global health challenges, and tackling it requires evidence on the effectiveness of different treatment approaches.

Findings from Cochrane evidence on the treatment of child and adolescent obesity have informed a technical report for the World Health Organisation. Led by Dr Louisa Ells, in collaboration with Warwick University, the review of evidence examined the effectiveness of surgery and drug interventions, alongside lifestyle interventions targeted at parents only, and children aged 0-6 years, 6-11 years and aged 12 years and over.

This report provides policy-makers, health services, scientists and clinicians with a current summary of the global evidence of weight management interventions for children and adolescents who are overweight or obese.

Dr Louisa Ells; Simon McKeown



CHANGING CULTURAL PERCEPTIONS OF DISABILITY AND DIFFERENCE

The research interests underpinning Simon McKeown's work focus on an exploration of the cultural assumptions and societal views of normality and difference. Through his creative work in fine art, animation and large scale public art performance, he works to affect popular assumptions about disability and to engage society by crossing creative and technical boundaries. He seeks to affirm disability as a social construct and his work reflects, deconstructs and engages with the concepts of normalcy and the abnormal. International commissions have included Cork Ignite, a large-scale complex outdoor production for Cork Culture Night 2015 which drew together many of his research interests including theatrical works, digital installation, soundscapes, and fine art collaboration with disabled artists.

Helping the Tees Valley meet new challenges

This Spring, Innovate Tees Valley celebrates two years helping businesses in the region to create and improve services, products and processes. David Roberts looks at some recent success stories.

innovate
TEES VALLEY

The £6.5m Innovate Tees Valley programme is led by Teesside University with partners NEPIC, the Materials Processing Institute and DigitalCity.

Part-funded by the European Regional Development Fund, it was established to help over 275 Teesside businesses achieve growth through service and product innovation.

The programme gives access to innovation expertise and facilities, helping to test new concepts, develop them into deliverable products and services and tackle new markets at home and overseas.

The success of Innovate Tees Valley has spawned a sister programme, Innovate Durham, which offers innovation advice and support, knowledge exchange internships and graduate placements to SMEs in County Durham.

MAJOR INNOVATION EVENT HAILED A SUCCESS Hundreds of businesses attended the very first edition of the national innovation event VentureFest at Wynyard Hall.

Innovate Tees Valley was a founding partner and funder of the event which followed a successful Innovate Tees Valley festival in 2016.

The 2017 event included practical workshops, lively discussions, inspiring exhibitions, networking and expert advice sessions provided a unique opportunity to share ideas and make valuable new connections. A total of 180 one-to-one meetings were also organised between investors and companies looking to raise cash.

Keynote speakers focused on highlighting current innovation successes in the Tees Valley, as well as new opportunities for businesses in the area to grow, become more profitable and generate new jobs.

Tees Valley Mayor Ben Houchen says, 'Being a part of VentureFest will strengthen the Tees Valley's reputation as an innovative place to live, work, visit and invest, bringing with it lasting benefits to the economy.'

Laura Woods, Director of The Forge, Teesside University's business hub, adds 'Innovate Tees Valley, a major programme of expert support for local SMEs, underlines the importance of innovation for the area's productivity and economic growth. VentureFest has been a great showcase of its success to date.'

PARTNERSHIP UNCOVERS INTERNATIONAL BUSINESS OPPORTUNITIES

Stockton-based Trade Interchange is exploring new business opportunities overseas thanks to the help of Innovate Tees Valley.

Trade Interchange's ARCUS® supplier management platform enables its clients to address the challenges of managing a large supplier base.

It is specifically designed and developed to address supplier and contractual risk, supplier performance management and eSourcing.

Trade Interchange works with a number of major brands in the UK, including Domino's, Brakes, Sodexo, PizzaExpress and Whitbread, and is keen to expand its customer base into North America.

Through the Innovate Tees Valley initiative, Trade Interchange worked with business innovation staff at the University to prepare a funding bid to Innovate UK. The company is seeking to research the American food service and hospitality market and look at how the ARCUS® platform might need to be adapted to comply with US legislation.

The four month project involved desk-based research and analysis of the US food industry, followed up by two visits to America.

Co-Founder and Managing Director Mike Edmunds says, 'Working with the University has been extremely positive.

'As a result of the work we've done we've now got a much better understanding of how the US market works and what its drivers are.

'We're in a position to step up our work in America and have developed a number of relationships with potential customers in America.'

From left - Trade Interchange Marketing Executive Lucy Burgon, Teesside University's Business Innovation Manager Gilly Hall, Jessica Bates, Trade Interchange Managing Director Mike Edmunds and Emily Baldwin.



From left - Matthew Lloyd, Director of Whitewash; Joanne Rout, NEPIC; Megan Lillie, Knowledge Exchange Intern; Azar Shahgholian - Senior Lecturer in Digital Marketing; Tom Riley, Director of Whitewash

ORAL CARE COMPANY ALL SMILES AFTER ASSISTANCE

A North East firm which provides and manufactures oral care products has seen its online sales rise by more than half after help from the Innovate Tees Valley project.

WhiteWash Laboratories, based in Billingham, was given assistance from the project to recruit and employ a marketing graduate to concentrate the development of an online and digital marketing strategy aimed at a specific market sector for their NANO range of products.

In addition, Innovate Tees Valley is helping WhiteWash Laboratories to grow its business by providing technical mentoring support as it sets up a studio for research and development and small-scale manufacturing.

Since Teesside University graduate Megan Lillie started working on a Knowledge Exchange Internship at WhiteWash Laboratories, online sales have risen by 67% in a six month period.

Her work, which has been supervised by Dr Azar Shahgholian, a Senior Lecturer in Digital Marketing and Digital Business at Teesside University, has also helped increase the amount of website traffic by 177%, grow the company's social media following by 78% and increase sales from email marketing by 140%.

NEPIC is also providing the technical mentoring in the development of the studio to help WhiteWash Laboratories understand operational, health and safety, quality and legislative requirements.

Tom Riley, Managing Director at WhiteWash Laboratories, says, 'The Knowledge Exchange Internship has been great and our digital marketing campaigns have been extremely effective.

'Megan has fitted into the team really well, consistently producing work to a very high standard.

'She has a wealth of knowledge in digital marketing and the academic support has allowed the project to evaluate all elements of an effective marketing strategy from looking at the Search Engine Optimisation of the company to the use of Google Analytics.

'The whole project has brought so much more to the company than what we expected.

For more information about Innovate Tees Valley visit innovateteesvalley.co.uk



CLINICS CREATED TO HELP BOOST STUDENTS' EMPLOYABILITY SKILLS

Students working towards careers in a range of subjects are able to develop their employability skills through special in-house clinics while completing their degree.

By Michelle Ruane

The University clinics work with external clients, offering them services or advice, while in turn enabling students to gain vital practical experience working with a real-life client.

Marketing and Animation students are currently able to take advantage of these University clinics, which provide them with an opportunity to gain professional experience while offering a service or advice to external businesses, organisations or individuals.

The result is mutually beneficial as the student gets the opportunity to work with a client, while businesses or individuals benefit from University expertise.

The Teesside Business Clinic enables marketing students to gain experience in dealing with clients, offering a free service to local businesses seeking help with marketing consultancy, strategic planning, branding, social media and public relations.

Marketing students Steven Askham and Luke Evans, who have set up their own company EDAW Marketing while completing their degree, are among those already gaining valuable experience.

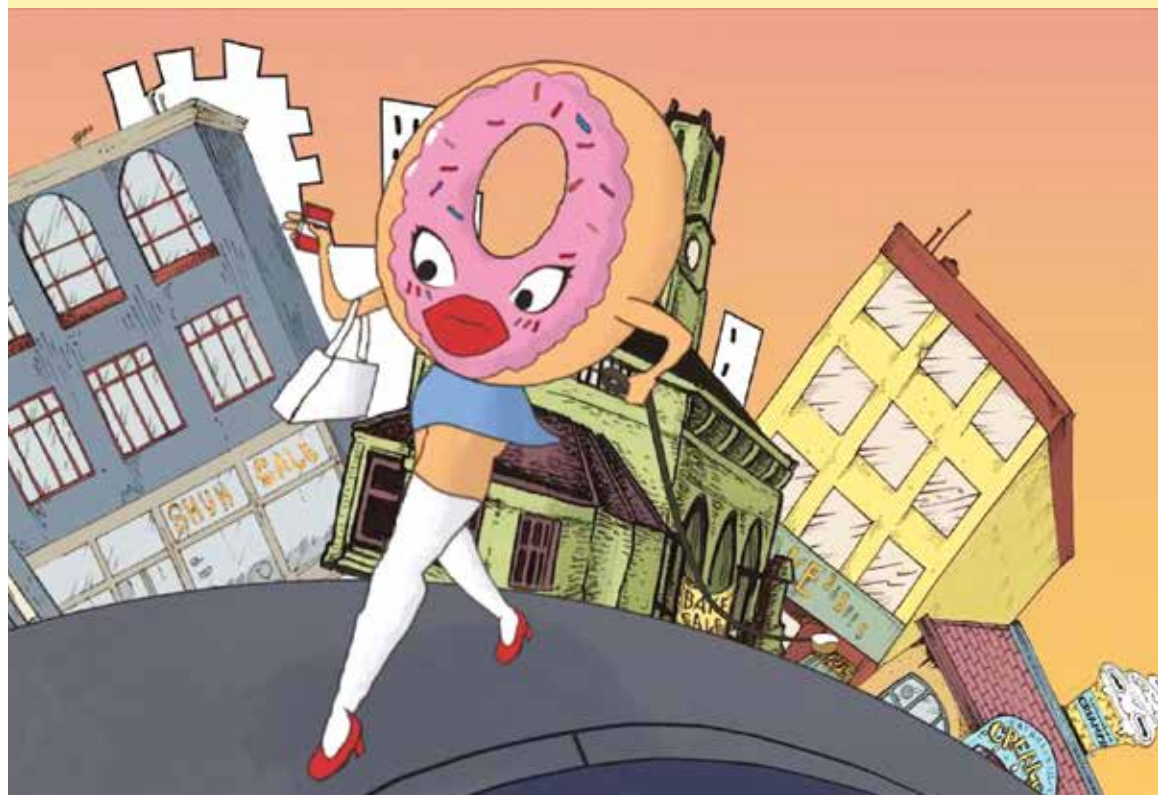
Luke said: 'Working with clients and external organisations has been a fantastic opportunity for us. It has really helped to complement our degree studies, while gaining practical experience and providing a taste of what businesses want.'

The University's School of Computing, Media & the Arts has created its Digital Studio which taps into home grown animation talent by helping to steer students and graduates towards their professional careers.

The studio has already completed high profile commissions for Public Health England and Durham Police, along with Random Acts Network Centre North, a joint initiative between Channel 4 and Arts Council England.

Tim Brunton, Senior Lecturer in Games Animation, who heads the studio, said: 'The studio is a mixing pot, bringing together researchers, academics, students and graduates to collaborate on a variety of projects.'

'We get businesses wanting to work with us and tap into our expertise. The studio has an important role in helping the region's digital economy to grow. We're also here to support graduate businesses.'



By David Roberts

Grow your own

A chance to grow your own workforce

Employers are taking advantage of the fastest growing route to training their workforce and attracting new talent.

Teesside University is offering a range of degree apprenticeships giving organisations the opportunity to ensure that their staff are getting the skills needed to grow their business, while employees can earn while they learn.

Like traditional apprenticeships, degree apprenticeships are co-designed with employers and bring together the best of higher education and vocational on-the-job training.

👉 Find out more at tees.ac.uk/apprenticeships



Abby Dixon (left) and Donna Jacques of Fujifilm Diosynth

PERFECT OPPORTUNITY FOR SENIOR MANAGER

A senior manager at Northumbrian Water has taken advantage of Teesside University's new Chartered Manager Degree Apprenticeship (CMDA) to further his career and strengthen his leadership skills.

Paul Walker is an Area Manager and leads a team of 18 staff. 'I am passionate about self-development and as soon as I saw the CMDA course I knew it was the perfect opportunity,' says Paul.

'My CMDA colleagues are from such a diverse range of organisations – from manufacturing to the NHS. It is fantastic to share experience and knowledge with people in different sectors.'

'It is making me a more inclusive leader and making me more aware that the decisions I make don't just affect me, but also have an impact on the wider company.'



The launch of the Nursing Associate qualification. Back row (from left) - Derek Marshall, Health Education England North East; Gill Hunt, South Tees Hospitals NHS Foundation Trust; Scott Godfrey, Nursing Associate Programme Leader; Jan Harris, Head of Department (Nursing). Front row - Linda Nelson, Associate Dean (Enterprise and Business Engagement), Marion Grieves, Dean of the School of Health & Social Care.

NURSING ASSOCIATE PILOT LAUNCHED

A new healthcare qualification has been launched for the first time in the North East at Teesside University.

The Nursing Associate is designed to support health care assistants and the registered nursing workforce in delivering hands-on care to patients.

The pilot for this new role has been funded by Government and a total of 35 sites nationwide have been chosen to deliver the pilot for the new qualification. Teesside University is the only institution in the North East to offer the two-year course.

The course is a work-based learning model which mixes classroom teaching alongside work placements to ensure students gain the necessary technical knowledge and practical experience.

Speaking at the launch of the new course, Derek Marshall, Chief Workforce Strategist and Planner for Health Education England North East, says, 'For us in the NHS it was very important to develop this qualification in partnership with the University.'

TAILOR YOUR LEARNING

Teesside University was able to work with Fujifilm Diosynth to develop an apprenticeship to meet their requirements in as little as six weeks.

Donna Jacques, Research and Development Systems Manager at the company, says, 'Teesside University worked with us from the beginning and was very flexible in delivering what we wanted.'

'Having degree apprenticeships at Teesside University means that we can grow our workforce from within Teesside which means we can retain staff a lot easier.'

Former Stockton Sixth Form College student Abby Dixon, joined Fujifilm Diosynth as a Research Scientist and is enrolled on the Laboratory Scientist Degree Apprenticeship.

She says, 'One of the main benefits of the apprenticeship to me is that they train you up from scratch and you are a product of that company. You know you are being taught exactly how they want you to be taught.'



'It's a fantastic mixture of established academic learning which students can consolidate with their employment.'

'It also provides a good platform for students to develop further skills and, should they wish, go on to study nursing programmes.'

Dean of the School of Health & Social Care, Marion Grieves, says: 'We're very excited to be running this pilot and helping build the nursing workforce in the North East.'

'We have a very robust partnership with NHS healthcare providers and are very pleased that we have been able to work together with them to meet their training needs.'

with Steve Dougan

Steve Dougan is Teesside University's Head of Graduate Enterprise. He coaches and supports graduate entrepreneurs and leads a team of people helping students, graduates and staff to start up in business.

Increasingly entrepreneurs are turning to the social enterprise model for their business. For example, this year, two of the successful businesses who received funding through our Launchpad Fuel programme were social enterprises. There are a number of questions about this relatively new type of business.

What is a social enterprise?

A social enterprise is a business that uses the profit it generates and, sometimes but not always, the activity it creates, to effect positive social change. There are more than 70,000 social enterprises in the UK, employing nearly a million people and contributing £24bn to the UK economy across all sectors.

A social enterprise is a business that:

- sets out a clear social or environmental mission
- generates income mainly from commercial activity (ordinarily 75% or above)
- reinvests the majority of profit made in its social mission

What are the benefits of social enterprise?

A social enterprise structure makes it very clear and gives confidence to your customers, supporters and employees that it exists to create social impact, not for the financial benefit of shareholders. It protects the assets that are acquired by the business ensuring that should the business fail, the assets are passed on to another nominated social enterprise.

Are there any downsides?

The biggest question for a social enterprise is the commercial assumption. This is where the founder makes the assumption that the services or products created by the social enterprise can generate sufficient commercial income to be a viable business. Remember it is a social enterprise not a charity. This often affects social entrepreneurs seeking to continue projects that have lost some form of state or authority funding. They must detach themselves from the worthiness or 'should it happen?' question and address the 'can it happen?' and 'who pays?' questions that must be addressed in the business plan.

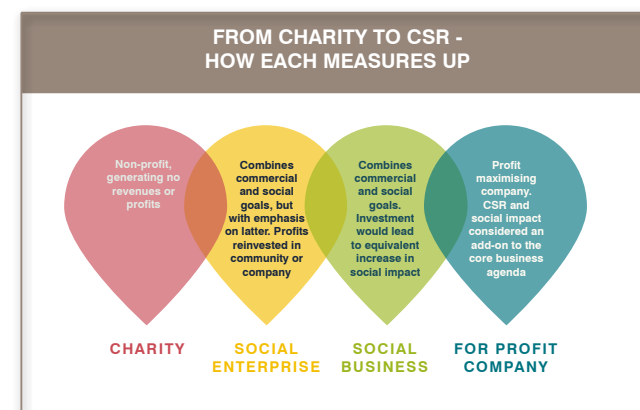
Contact The Forge to find out more:

01642 384068
theforge@tees.ac.uk



How do I know if the social enterprise model would be a good fit for my business?

If the primary focus of your business is to create social or environmental change through profit-making commercial activity, then you should consider a social enterprise model. Here is a quick model to help illustrate the different types of business.



Can I still pay myself a wage/dividend if I run a social enterprise?

You can pay a wage to yourself and your employees.

Are social enterprises sustainable?

They are sustainable so long as the business idea is viable.

Got a question for Steve?

Email s.dougan@tees.ac.uk and remember to include your contact details.

Research highlights the dangers of energy drinks

Academics have warned that there should be age restrictions on the sale of energy drinks after finding they are being sold to children cheaper than water and pop.

Research has revealed that around one in three young people say that they regularly consume energy drinks, which typically contain high levels of caffeine and sugar. The dangers of energy drinks are well documented with evidence indicating that regular or heavy use by under-18s is likely to be detrimental to health.

This was the first study to explore indepth the views of children, as young as 10-years-old, on energy drinks, with the research carried out by Fuse, the Centre for Translational Research in Public Health, a collaboration of North East Universities.

Researchers spoke to children and young people, aged from 10 -14 years old, from primary and secondary schools in County Durham, North East England and visited shops in the local area.



Dr Amelia Lake, Reader in Public Health Nutrition at Teesside University.

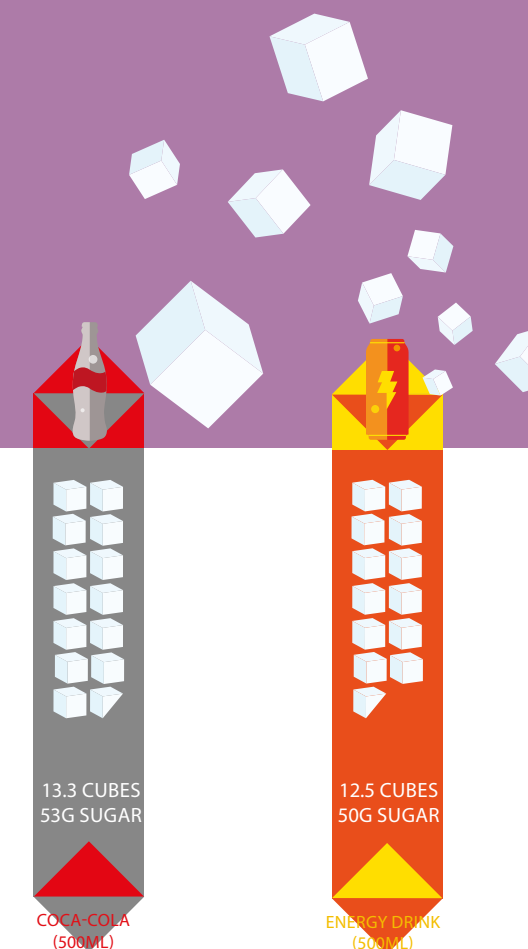
THEY DISCOVERED THAT ENERGY DRINKS WERE:

- Easily available to the children and young people in local shops. The children were well aware of the different brands, key ingredients and some of the risks linked to drinking them. However, they were less certain about the amount of sugar and caffeine contained in the drinks.
- Sold for as little as 25p (single cans are often on promotion, for example 4 for £1) with some of the young people taking advantage of the offers by pooling their money and sharing the drinks.
- Targeted at children online in pop-up adverts, on television, in computer games for over-18s, and through sports sponsorship. Some of the young people said that they chose energy drinks to 'fit in' or 'look tough' but others had made the decision, as a friendship group, to stop drinking them.
- Linked to activities that could be considered attractive to young people, including music, extreme sports, sexuality (both masculinity and femininity), gaming, drinking alcohol and general risk-taking.

The children and young people in the study were aware of the potential risks involved in drinking energy drinks. During focus groups many of the participants suggested putting age restrictions on energy drinks, similar to those on cigarettes and alcohol. They also proposed that the drinks could be positioned away from children and young people in shops, and wanted the labelling on energy drinks to be clear and understandable, for example by showing sugar content per spoonful.

Dr Amelia Lake, Fuse Associate Director and Reader in Public Health Nutrition at Teesside University, says, 'What's interesting is the young people are essentially asking why these drinks are being sold and marketed to them when we know they are not good for them.

'They are telling us that energy drinks cost less than water or pop. They are asking, why aren't energy drinks age restricted like cigarettes? Why can they get them so easily? But they are also well aware there isn't a simple solution.'



Expertise from Teesside University has helped develop new technology for one of the world's leading engineering companies.

Rolls-Royce's Future Technologies Group is tasked with undertaking early stage research with universities around innovations in the aerospace, energy, nuclear, defence and marine sectors that may reach the market in 10-15 years' time.

A major push is underway on 'step change' technology, especially around engine development with moves towards hybrid propulsion in marine, rail and aerospace sectors. However, according to Alexis Lambourne, a Novel Materials Specialist at Rolls-Royce, the biggest challenge is in aerospace, where there is a growing requirement to develop a hybrid propulsion package combining gas turbine, generator and electrical propulsion motors.

Having worked with Professor Simon Hodgson, Teesside University's Pro Vice-Chancellor (Research and Innovation), on a number of Rolls-Royce funded projects on high-temperature wire technology, the company had no hesitation in turning to the advanced surface coatings expert for their latest organisational problem.

'A key enabling technology for an aerospace hybrid propulsion package comes from the ability to integrate electrical systems into the core of a gas turbine,' Alexis explains. 'Our need was to demonstrate high-temperature electrical wire insulation technology capable of operating at 450°C, thereby enabling this technology to go into electrical motors that would be used in a gas turbine engine.'

'This is important as hybrid propulsion is recognised as the key to reduced fuel consumption and associated noise and emissions, whilst making the overall system much more responsive and efficient.'

'Teesside University provided the high temperature wire, and wire encapsulation through their coatings, that could survive such extreme temperatures. With input from Manchester and Sheffield universities, a demonstrator electrical machine was designed and built in three places, tested in Sheffield, and delivered to Rolls-Royce.'

The three-year Innovate UK project, which was completed in 2017, marks another significant milestone in the relationship between the two organisations.

'I have worked with Professor Hodgson and Teesside a number of times and they are an excellent partner,' Alexis says. 'Their high-temperature wire insulation is probably world-leading technology. From our side, we now need to consider how we manufacture it in scale. But in terms of the brief we gave Teesside, they did everything and more. It's been an entirely positive experience, the people we have engaged with as much as the technology.'

Alexis went on to praise the approach taken by Teesside University in nurturing the partnership. 'Their can-do attitude is impressive, and I was particularly pleased with the team's personal commitment to the project, not least Professor Hodgson who found time to attend every meeting,' he said.

'Their have a go spirit stands out. They also worked effectively with the two other universities, hosting Sheffield and Manchester to explore problems around coil manufacturing, and one afternoon in the lab was more effective than a month of phone calls.'

Innovate UK
Technology Strategy Board



Professor Simon Hodgson, Pro Vice-Chancellor (Research and Innovation)



© Rolls-Royce Plc

New partnership to boost healthcare education and research

Teesside University and North Tees and Hartlepool NHS Foundation Trust have formed a powerful strategic partnership which will enhance innovation in healthcare and education in the Tees Valley.

By Gary Martin



Students in Teesside University's School of Health & Social Care.

The partnership sees the two organisations work together and pool their expertise and resources to establish collaborative education and training programmes, as well as research and innovation projects.

It aims to enhance the quality of life and lifespan for people from a range of perspectives and covers work on areas including disease treatment and prevention, social and physical well-being, mental health and human behaviour, as well as the development of new technologies and ways of working.

The partnership reinforces the commitment of the two organisations to work together in collaboration to improve healthcare in the Tees Valley through advanced education, training, research and innovation.

Teesside University has a long history of supporting the health sector, providing a wide range of high quality and innovative training and education programmes to the sector within the UK and internationally, working closely with both care providers and service users. In addition, the majority

of its research in support of the health sector was rated as being world leading or internationally excellent quality in the last national research assessment (Research Excellence Framework 2014).

Professor Simon Hodgson, Teesside University's Pro Vice-Chancellor (Research and Innovation), says, 'This partnership with our region's health providers is the latest development around our University Research Grand Challenge in Health and Wellbeing and emphasises our commitment to addressing the big research questions that make a real, practical difference to people and communities around us, as well as on the national and international scale.'

Linda Nelson, Associate Dean (Enterprise and Business Engagement), in the University's School of Health & Social Care, adds, 'The University has long enjoyed a strong working relationship with North Tees and Hartlepool NHS Foundation Trust and this formal partnership allows us to explore and develop further exciting new opportunities built on broader and deeper collaboration across both organisations.'

Professor Samir Gupta, Clinical Director for Research and Development at North Tees and Hartlepool NHS Foundation Trust, says, 'This exciting partnership allows the two organisations to work closely together to help improve healthcare in Teesside through education, training, research and innovation.'

'This will help us to continue to provide the very best care to our patients.'

Dr Paul Williams MP for Stockton South supported the partnership and described Teesside University and North Tees and Hartlepool NHS Foundation Trust as two beacon institutions in the Tees Valley.

He adds, 'As a GP I know the importance of innovation in health care. Developing effective treatments and continually improving outcomes for patients is key to ensuring our NHS remains strong.'

'I am sure that staff in both organisations will benefit hugely from this exciting collaboration. Ultimately patients are everyone's priority and this formal partnership agreement will lead to even better healthcare for people here on Teesside.'



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